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ABSTRACT

Language samples were gathered from two children, from several weeks after the first birthday of each child to the beginning of the child's two-word period (approximately 10 months). The children were observed and videotaped every two weeks, to obtain 33 continuous minutes of tape. Analyses focused on the question of whether or not the child uses a "grammar" at the holophrastic (one-word-sentence) stage of development. Results indicated that a grammar was in fact being used, with single words incorporated into a basic logical structure that meaningfully related elements in the environment. (The data-analysis form and the language-functions of individual words in each subject's lexicon are included as appendixes.) (AA)

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Communicative Competence: The Holophrastic Stage

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In the very early seventies, researchers such as Del Hymes (1971) and Courtney Cazden (1972) began making a very good case for examining language as it is used in our everyday lives. A preoccupation with studying competence and idealized speaker-listener situations has indeed provided little information concerning functional communication. Since that time, the term communicative competence has grown in acceptance and use and today we readily employ it in speaking of one's knowledge of language appropriate to a given situation. In our own discipline, we have begun looking at the structure of the language code as well as affective behaviors, discovering how they are learned and shaped into roles and norms acceptable to various societies. Or, as the SCA National Project on Speech Competency states, we are charting "the course and schedule of the development of functional communication behaviors," seeking out "the range of strategic choices made by children at various stages of development" as well as their effectiveness (p. 253).

No other area has probably been affected as much by the Procrustean bed of linguists as that of child language. Elegant and, at times, parsimonious rules have been developed which unfortunately have had more to do with methodological commitments to linguistic models than children's utterances or the transfer of meaning (Reed, 1976). The study I will discuss today concerns the acquisition of linguistic structures as well as the communication of meaning at one of the earliest stages of language development.

The Problem

Although the generalization cannot be made for all children, it has been reported that most go through a single-word stage which has come to be termed holophrasis (McCarthy, 1954; McNeill, 1970b). During this period, approximately twelve to eighteen months of age, the child begins uttering a small number of words and responding to a greater number of verbalizations or commands in the environment. Because this period of language acquisition by definition involves single linguistic units which refer to a complex state of affairs, either the word itself must convey the total meaning or extralinguistic features must enter into the child's communicative efforts. Until recently, most of the research which has taken place at this level has not provided a grammar that accounts for anything but the syntactic categorization of words or word units. At the same time, it has become accepted that the semantic notion conveyed by the child's holophrases is much more complex than such a model allows.

With the advent of Fillmore's writings on case grammar, psycholinguists have begun examining children's utterances with more than mere surface classification in mind. There now exists the growing realization that the semantic or conceptual intentions of the speaker are communicated to the receiver through the syntactic-semantic relationships within the phrase or sentence. To date, this type of analysis has been employed by researchers investigating only those periods which follow holophrases. The obvious reason is that the holophrastic utterance is just one linguistic element, the remaining meaning coming from the context. There presently exists a need to examine holophrastic utterances not so much as they are found in the surface linguistic occurrence, but as the child relates them to the meaningful elements in the immediate environment which help constitute the whole communicative effort. "To learn a language," as Jesperson (1922:128) pointed out, "it is not enough to know so many words. They must be connected according to the particular laws of the particular language." The question posed here becomes one of whether or not a set of rules, or grammar, exists at the holophrastic level. Are there, as Chomsky (1965:27) states:

> initial assumptions concerning the nature of the language that the child brings to language learning, and how detailed and specific is the innate schema that gradually becomes more explicit and differentiated as the child learns the language.

It is common in psycholinguistics to speak of regularities and rules in language from the two-word stage to the adult grammar. One primary reason for maintaining this assumption has been the "Grammar Machine" suggested by George Miller (1960) which posits essentially that the speaker of a language continually structures and restructures utterances according to his or her knowledge of how that system operates. More recently, data have been found which support the idea that the human organism structures linguistic strings in an almost universal way during early acquisition (Kernan, 1969; Slobin, 1969; Bowerman, 1971). As Ervin-Tripp (1970:334) points out:

> The evidence we have about their early syntax in a variety of languages suggests that it begins with a set of primitive and universal basic semantic relations: negation, conjunction, agent-action, action-object, attribution, location, identification, possession.

Research with adult grammars indicates that even though the course of development syntactically separates one language from another, all maintain

certain basic semantic relationships which are universal or found in most other human languages (Fillmore, 1968; Chafe, 1970; Schlesinger, 1971). In other words, language throughout the stages of acquisition is modified and structured so that notions about things and actions of the environment may be communicated. Whether this structuring results from an innate predisposition of the organism, a position held by nativists such as McNeill and Chomsky, or from reinforcement, the more behavioral point of view, it remains that messages must host certain relationships in order for meaning to emerge from the otherwise isolated elements.

At the holophrastic stage the child entertains complex notions which are expressed through the single word. A number of researchers (Ervin-Tripp, 1971; Slobin, 1970; McNeill, 1970; Brown, 1973) have noted that conceptual relationships which are realized in output during the two-word stage are apparent much earlier not only in the child's comprehension, but in the holophrastic output as well. The possessive relationship may be represented by "Daddy" during holophrasis and expanded to "Daddy coat" at the two-word level. The same meaning, however, is intended at the holophrastic level and it would seem most feasible that such notions are facilitated through a strategy of some type.

Linguists have wanted to ignore the fact that extralinguistic features such as gestures and environment play a part in conveying meaning, but such features do make up much of the perceived message at all levels and certainly they are basic to understanding the holophrase. Prior to holophrasis, the child has succeeded quite well with just gestures and babbling. In fact, diary studies such as those of Lewis (1951, 1963), Leopold (1939), and Bloch (in de Laguna, 1928) record that gestures constitute most of the communication during the prelinguistic period. A child may even develop gestures so effectively that needs are largely satisfied through this medium (McCarthy, 1954). It is difficult to conceive that gestures would become meaningless and their use terminated during the following period when the child expresses complex semantic intentions with one word.

The question becomes, then, one of what meanings or intentionality the child entertains at holophrasis, and whether and how the word is consistently correlated with those gestures which have become part of communication. Finally, if a grammar does exist, what psychological discriminations does the child's behavior demonstrate during the holophrastic stage of development.

There has as yet been little effort to correlate extralinguistic features with the emerging single-word corpus evidenced prior to the two-word stage. Instead, it has become commonplace in the literature to give gestures a parenthetical aside when explaining the early stages of acquisition and the wide range of meanings available to the holophrase. As to the complexity of the child's semantic notion realized through the surface presentation of linguistic and extralinguistic cues, psycholinguistic literature indicates that the child makes discriminations in his or her communication earlier than such simple early phrases might indicate. For example, Schlesinger (1971) and Brown (1973) have noted that the utterances of the two-word stage consist of more than the open and pivot words spoken of in the early research of Braine (1963) and Miller and Ervin (1964). They in fact represent the actions and objects of the environment which, because of their surface position or association with each other, generate relationships. It is necessary that the child make such relationships clear in an utterance if it is to reflect some psychological reality for the receiver.

According to Fillmore (1968:24) all of the noun phrases of a sentence stand in a particular relationship with the verb, these associations comprising what he has termed "a set of universal, presumably innate, concepts which identify certain types of judgments human beings are capable of making about the events that are going on around them." To conjecture as to whether these relationships are learned or innate is to open a Pandora's box. At this time, it need only be said that they exist and that the child comes to realize them in communication both as they are positioned and as they constitute some grammatical category.

These relationships, however, are more than the basic building blocks of grammar. They are, as Chafe (1970) notes, universals which must exist for communication to take place. Stated in such terms, a grammar for this early stage of acquisition may be parsimoniously defined as that set of particular relationships holding between the conceptual category of action or state and the specific things of which the child is aware in the environment. These relationships are continually being structured and restructured into surface performance so that the perceived interaction between things and processes may be communicated more efficiently.

Since the child does communicate with holophrases, it would not seem presumptuous to assume that communicative schemes reflect abstract notions.

In other words, that structuring between things and processes is taking place at the physical level. To approach a corpus of utterances from the one-word period, much as Fillmore and Schlesinger have done for later periods, would lend little insight into the holophrastic use of language. There are simply not enough words in a string to establish the relationships in the child's propositions. On the other hand, there are extralinguistic elements which the child employs in communicative strategies so as to vary his meaning. The words "open," "down," "go," "cup," and "daddy," although seemingly simple, can carry relatively complex meanings. The child may repeat one of these words while motioning with the arms and grabbing an object of some sort. What he or she is expressing is a set of relationships involving the things and actions of the environment much as the adult speaker who orders words in a sentence. Both are propositions which predicate or name some relationship between "things" in the environment.

While the structuring or surface realization of the holophrase may vary greatly from that of the adult linguistic sentence, both may host similar meanings. Consider, for instance, the person "Jim" and a sixteen month-old child's request of him to open the door. How exactly will the child express this notion? Will the word "Jim" be employed along with a pointing gesture toward the door; perhaps it might be "door" and a nod to Jim; or maybe the child will use just the word "door." Presently no grammar explains the type of word chosen or what meaning entities will accompany its use. In other words, not much is known about the symbols the child has internalized at this point and how they relate to the communication of his semantic notions.

There may be several meanings for each of the relatively limited number of one-word phrases the child employs. Because several different meanings may be demonstrated consistently through the manipulation of linguistic and extralinguistic features, the child would seem to entertain a rule system at this early age. Semantically, the above utterance constitutes Jim + open + door. And as suggested, the child may realize the utterance by reacting differently toward the agent, the action, and the object, facilitating meaning through a strategy of some sort.

The holophrase would seem to be more than a child's imitating the stressed word in the peak of the adult sentence, or replication of first or last things heard. It is more than a sentence stored in the memory as a sequence of sounds or the association between stimulus object and symbols as some would seem to

think. Nor can the phenomenon be simply described as words fused together with actions. Just as the eventual adult grammar is rule ordered so holophrastic communication is selective rather than random and relational rather than imitative.

The question of the child's hosting a grammar at the holophrastic stage may be approached by developing hypotheses concerning the organization and structure of both the linguistic and extralinguistic data in relation to the conceptual intentions of the child. The following hypotheses must then be considered in examining communicative competence at the holophrastic stage.

1 A grammar fashioned from the relationships between meaningful linguistic and extra-linguistic elements is present at the holophrastic period.

2 Relationships between linguistic and extra-linguistic elements in the child's one-word proposition are necessary for the communication of meaning.

3 Changes in the child's semantic notion obligatorily involve changes in the child's performance comprised of gesture, context and word.

4 Regardless of the word type, noun, verb, etc., relationships must be present for meaning to emerge.

5 Although relationships are relatively constant, they become refined during this period.

Data Collection and Interpretation

The research reported here is a descriptive study based upon language samples taken from two children. The data were longitudinally collected over a period of approximately ten months, the collection beginning several weeks after the first birthday of each child and continuing to the beginning of the two-word period. The chief criterion for the selection of subjects was that behavior be gregarious, although this is sometimes not a reliable determiner of how expressive children will be after they start talking. At the outset, the speech of the children observed had obviously not developed to the point where it could be judged on the basis of phonetic clarity, but it was imperative that those chosen display at least an average need to communicate to significant others.

Other controls placed upon the subjects were that they be relatively equal socioeconomically and display at least average intelligence. As Bloom (1968) points out, potential mental development is an index which may affect the child's language. Since this factor is difficult to control for, she looks to the environment and the parents' education as a partial determining measure. The decision was made in this study that the parents should be at least college level or college students. It was also decided that the subjects should be a boy and a girl relatively close in age. The subjects would then entertain somewhat different input. If there were similarities in their performance, they would emerge more clearly. The consequence of sex related differences in interaction styles between parent and child remain a topic for further study.

Recording began for the two subjects when Kenny was twelve months, twenty-four days and Sara was twelve months, seventeen days. Kenny was a first child and had no siblings and Sara was the second-born in a family of two children. Both families were educated middle class native speakers of English. The communication development up to the time of the study revealed nothing out of the ordinary. Both children were moving through the babbling stage and were beginning to imitate several of the words heard in the linguistic environment. Prior to the first session, both children responded to their parents' communication by carrying out tasks or performing actions.

All of the recording was done with a Sony video/camera model AVC-3400 and videocorder model AV-3400. The camera, equipped with a microphone, recorded the sound. Since the recorder was about the size of an overnight case, it was usually hidden under a jacket, a blanket or pillow. The equipment's manageability allowed the investigator to follow the children from room to room, although the events were usually restricted to a specific area. Beginning the recording two months early facilitated the almost total acceptance of the equipment as part of the environment. The two children were observed and recorded individually every two weeks, the only exceptions being caused by occasional illness or a suggestion by one of the parents that maybe the child "would feel more like talking tomorrow." Although each video tape consisted of thirty-three continuous minutes, with stopping and starting and an occasional timeout, the sessions never lasted under fifty minutes.

Speech events were structured to some extent around toys and books with which the child was familiar. Each sample also included the child either at snack time or lunch, some interaction with parents, and, in Sara's case, her

sister Paula. The investigator provided no toys but only came to record and occasionally interact with the child when it appeared that elicitation might be more effectively achieved. The above situations varied to say the least in their degree of success from visit to visit. The parent usually led the child from one activity to another, the investigator following along with the camera.

Unlike many studies which have required the researcher to immediately transcribe the data, the video portion of the recording captured all of the speech event leaving little, if any, observational data to the researcher's memory or imagination. Although the data were examined throughout the taping period, the formal transcription was not carried out until all of the visitation schedule was complete. The data were then transcribed over the period of a month on forms (see Appendix A) which supplied the various elements of a speech event.

The following method was used in evaluating the communicative performance of both children. A semantic interpretation was given to each utterance and entered on the data form. This was done with several factors in mind: How did the adult react to the child's message, what situation was the child responding to, and was the child satisfied with the way in which the adult responded to him? The interpretation assigned by the research did not, however, reflect syntax, even though a syntactic string was imposed on the child's utterance by the investigator. The interpretation served to record the semantics or what the researcher and the adult receiver intuited to be the meaning of the utterance. The utterance was then entered on the data analysis form as "I want the ball," or "That is a duck." Only the most gross sentence was used as no attempt was made to add embeddings.

The speech events were recorded on individual forms in terms of the word used and the accompanying extralinguistic features. The word was classed in one of three categories: expressive, referential, or conative. The subject's expressive utterances were those affective vocalizations such as [ʌ] which were already being used when the study began. Both children seemed to attach some emotional significance to such sounds and employed them expressively in their early positive and negative reactions to situations as well as later in calling the attention of the receiver. These expressive vocalizations continued in use and new ones were added during the course of the study. Referential words were also used by both children. They were employed in a naming fashion as well as in propositions. These words became the names of

agents, objects, datives, locations and modification and were classed as such. Holophrases have also been defined as related to action or conation. Words such as "walk," "up," and "open," all related to an action-oriented class and were used by both subjects toward the end of the period. These words were thus entered under the category of conative.

The above categories were determined through selection rather than through grammatical inflection (Bloom, 1968:74). That is, nouns were not determined as that group of words to which the suffix -s is added in forming plurals nor adjectives a class to which the adding of -ness makes them nouns. They were determined through the child's selection of a word and the patterns of behavior which surrounded such selection. For example, Sara used "mama" expressively before it indicated a name. Her use of "pretty" was also a name before it became a modifier. Likewise, Kenny's "up" and "three" were action words rather than in the expected adult syntactic category. This categorization allowed the one-word utterances to host semantic properties which helped determine the word's use in propositions at a given stage.

Both children's use of extralinguistic features were also recorded on the form in the following categories: (1) visual attention, (2) hand orientation, (3) finger orientation, and (4) body orientation. Each of these categories in turn hosted functions such as agent, object, and location, which could become meaningful through the appropriate physical reference. Actions such as grasping and reaching were also categorized under 1-4. The main criterion here was economy and adaptability to the eventual grammar hosting both the word and the accompanying features.

More information was provided under "comments" when it was obvious that such remarks would add to the understanding of the speech event or when its pattern varied or carried special meaning not available through the established categories. Some utterances were strongly elicited by the adult's preceding comments to the child. Such incidents were also recorded on the forms.

The linguistic corpus selected for analysis did not consist of utterances longer than one morpheme. When sounds seemed to serve no function and no communicative intent could be defined, the utterance was discarded. The object of analyzing speech events was not to establish mere syntactic description but to account for the form of the utterances as they appeared with extralinguistic features so as to become productive in communication. The main

criterion for establishing this schema thus became that consistency with which the child used certain utterances and gestures in light of context. Since unique utterances did occur, frequency was the criterion used for selecting patterns.

Structures also appeared which seemingly had little to do with the child's communicative pattern at that time. For instance, Sara's mother commented, "Cinderella is a nice baby." Sara then said [n æ besɪn]. Although not representative of the child's overall performance, these utterances were not completely ruled out. They have been included in the appendix and the discussion of the data as well.

Summary of Data

Both Kenny and Sara used the same general schema in their communication thoughout the one-word period. There were differences, of course, between the lexicons of the children. Yet, as the grammar presented below illustrates, the development of the propositional use of the word traveled a similar course for both children.

1 Label

2 Expressive + Action + Object

3 Expressive + Action + Object + Agent

4 Expressive + Action + Object + Agent + Label

5 Object + Action + Object + Agent

6 Agent + Action + Object

7 Dative + Action + Object + (Dative)

8 Location + Action + Object + Location + Agent

Conative_1 + (Action) + $\overset{\text{Location}}{\text{Object}}$ + Agent

9 Conative_2 + Action + Object + Agent

Conative_3 + Object

The communication at the outset of the sessions was largely physical. Sound soon accompanied each child's pointing gesture as the children verbally labeled objects in the environment (1). Similarly, expressive sounds began appearing with a set of gestures the children had used in going after something (2). This gestural schema was used to signify that an object was desired. The gestural schema of reaching toward the object, eyes focused visually on the object, not only indicated the object, but predicated an action on that object. When the sound [ʌ] accompanied this schema it seemed to serve

both of their needs. The adult in the environment could be alerted to the child's need by the expressive language and then be aware of what the child wanted by the physical relationships he conveyed. The proposition became strengthened in both Kenny and Sara with the addition of visual attention to the agent (3). This occurred in both children after some use of the standard action-object gesture. It is proposed here that such a change resulted from a growing awareness of the person answering the demands.

This arrangement of gesture and sound seemed to serve both children's demands well enough at the outset. Neither child remained at this level, however. The labels which each child had been using to identify things in the environment began to be associated with the predicative proposition of demand (4). The adults in both environments insisted that the children use words, and also Kenny and Sara were at times faced with the problem of ambiguity in their demands. A conjunctive proposition was thus formed in which both children used the identifying statement comprised of a name together with a pointing gesture immediately before or after the expressive statement of demand. In other words, in stage four the children claimed attention with expressive language and strengthened demands with the label as well as the signifying physical behavior. These propositions appeared in close contiguity. The gesture of pointing tended to disappear when the name had been firmly established as a word denoting the particular object. The necessary relationships were still formed physically, however, as both children gestured action with their hands, focused their eyes on the agent, and extended their arms toward the object.

With the learning of more words, Kenny and Sara not only expanded their vocabulary and ability to classify the environment but also began using the words referentially in propositions (5). The word for the object began to stand in relationship with the action. The children then began to demand things by uttering the word and relating it to the gesture of action.

Words which had been acquired could stand in other than objective relationships with the action. Kenny, for instance, used "Daddy" as the name for his father. It also became a word which stood in agent (6) and receiver (7) relationships with the action. When Kenny used the word "Daddy" as the agent, he did not visually call upon his father. Rather, he fashioned the action gesturally, focused his visual attention and pointed toward an object. This tended to change when Kenny used the word "Daddy" in a dative relation. He still looked at his father while handing him an object and

saying his name. Location was expressed in relationship with the action by Sara's telling her mother where she wanted something put (8). She not only named the location, but patted it with her hand so as to insure communication of the correct meaning. The other relationships which have been indicated were formed gesturally.

Kenny and Sara moved from the stage in which their demands were relatively simple to one in which they wanted more specific actions performed. The grammar shows that they had become increasingly aware of the things around as they gave them names and used the words propositionally. The children also became aware, as evidenced in their conative language (9), that things were on and off, snapped and unsnapped, sleeping and awake, and wet and dry. They then began demanding specific actions, describing actions, and naming states.

In the first type of conative shown in the grammar both children acquired words which denoted specific actions they desired someone perform for them. As indicated in the grammar, action could accompany this word. It seldom did, however, since the word adequately communicated the action whether it be an "up" or a "snap." When the children wanted a special action performed such as the throwing of a ball, he or she could accompany the action word with gestures toward the ball and the direction in which it was to be thrown. In the case of a demand such as "up" the children needed only to accompany the word with a direction of the arms. They may also say "have" and signal only the object. In all of these cases, however, the agent is consistently appealed to visually.

The second conative differed from the first in that it was a word which accompanied each child's action on an object. It did not seem to demand special action from anyone in the environment, but served to describe the action in which both were participating. The mother or father many times came to the child's aid, though, because the child paid the parent visual attention. This caused some ambiguity since it was not clear whether the child or the adult was the agent. Ingram (1971) suggests that the child is the agent in such a case. The parent has been considered the agent here because the child did give him this attention. Further study is needed to determine agency in such cases.

The third type of action word was used to name states. The children did this much as they named other pehnomena in the environment. As indicated by the grammar, they physically related the object in the environment to the word. No appeal was made to the agent as this was the name of a state and needed no agent.

Both children thus entertained a grammar with which they could realize intentions through forming physical relationships and uttering one word. The gestures provided a framework in which each child could experiment with a type of word, testing its communicativeness. When the child employed the word in a new relationship, he or she relied mainly upon the gestural fashioning of such relationships. When the child was sure of the linguistically formed relationship, the gesturally indicated physical counterpart was no longer needed. Thus, at the conclusion of holophrasis, many of their words were being systematically related to the other elements of the proposition.

Conclusions

This study has concerned itself with the question of whether or not the child hosts a grammar at the holophrastic stage of development. As the review of literature suggests, the child is capable of communicating complex intentions during this time while using only one word. Many researchers also allude to the fact that the child's environment and gestures play a part in this communication. The model developed here employed these extralinguistic features based upon the idea that in order to communicate a proposition, a relationship between a thing or person and some process or action had to be indicated. The assumptions which were posited then were: (1) that a grammar exists at this early level and the child fashions it from meaningful linguistic and extralinguistic elements; (2) that relationships between these elements are necessary for the child's meaning to be communicated to those receivers in the environment; (3) that such relationships are governed by the child's intentions; (4) that regardless of the word type, relationships must be present for meaning to emerge; and (5) that relationships are constant throughout the period while becoming refined.

As the data have borne out, the child learns a small number of words during the holophrastic period. Communication behavior further suggests that the child incorporates these single words into a basic logical structure which meaningfully relates elements in the environment. In other words, there exists a consistency or a set of rules in the child's communication which becomes refined as he or she moves through the period. The child not only entertains words and their meanings at holophrasis; there also exists the ability to correlate them with context. What is more, many of the relationships which later hold between words at the two-word level exist at the one-word stage. It may be stated, then, that the child employs a grammar at the holophrastic level.

In approaching the concept of grammar, Slobin (1970) has defined its function as the relating of sound to meaning. As has been shown in the grammar presented here, the child acquires a schema with which to realize intentions. The present study, which includes the period of twelve to twenty-two months, suggests that the child's communication strategy results from his structuring and restructuring of environmental input. Thus, the period of holophrasis could be most aptly termed one of organization.

From the outset, the child interacts physically with the environment. This young communicator in fact seems to become aware of things by physically acting on them, many times to his parents' dismay. When the child wants something, he focuses his entire attention on it, letting nothing stand in his path. Similarly, he or she becomes acquainted with the things in the environment by pointing at them and patting them. The child would seem to host some basic and perhaps universal cognitive structures in the holophrastic period which are related to the words being acquiring and the grammar coming into use. Although the child does not use words with many of the prelinguistic actions, these early physical behaviors would seem to be establishing the logical structures for the naming and propositional statements soon to be used.

The child's initial knowledge of how the environment operates, the understanding of functions and relationships, would seem to result from interaction with environmental input which consists of language as well as other stimuli. Picture, for instance, a father and his fourteen month-old son looking through a picture book. Although the gestures used by both parties help focus attention, language also accompanies the physical gesture, the father saying "horse" or "car." Similarly, when his mother wants him to drink the rest of his milk and finish his meal, she may tap the cup against the table, push it toward him, and say "drink." As Slobin (1970:2) has stated, "The child must attend both to speech and the contexts in which speech occurs; that is, the child must be trying to understand what he hears." Such learning would then seem to be cognitive as well as linguistic. This notion has become increasingly important in recent considerations of language acquisition.

The present study examined holophrasis in terms of the child's linguistic and cognitive discovery procedures and traced the pattern by which the child's environmental input was converted into an eventual utterance. Slobin (1970:2) speaks of a psychological principle operating in language acquisition which states: "New forms first express old functions, and new functions are first

expressed by old forms." In other words, the child demonstrates cognition (function) before he has the language (form) to realize his intentions linguistically. During acquisition, then, the linguistic system continually strives to equal in its expression what the child entertains in his cognition.

During the period investigated in this study, the children learned a number of words. These symbols did not serve in themselves, however, to communicate any more than the name of an object or an action. Yet, both the children seemed to be aware of more than this simple naming form. Through the combining of gesture and the single-word, each began to employ words in different relationships with those things around, thus realizing for the first time linguistically what they knew cognitively and had communicated in the past gesturally. Through this combination of gesture and the single-word (new form), both children came to communicate perceptions (old functions) up to that time. By employing single-words in various contexts, they communicated a variety of meanings: possession, location, identification, agency, and receivership.

Prior to entering the two-word period, then, both children learned to use words to represent objects and persons as well as to convey many of the relational functions of each. They also learned words for processes, or actions, and related them in the same physical fashion with the entities of the environment. Progressing to another new form, the two-word phrase, the children communicated a function (semantics) which both had entertained and had communicated during the previous stage. The semantic relationships which the children realized between words and things and words and actions then became relationships between words.

It may be said that the child entertains a grammar at the holophrastic level comprised of one-word and the ability to physically relate it to context. Just as the adult hosts a finite rule system and the ability to generate an infinite number of sentences, so the child as early as the one-word period demonstrates the ability to produce a number of unique utterances which reflect cognition. Such communicative performance seems to stem from a growing understanding of the physical environment and an ability to fashion a number of relationships both physically and linguistically.

The development of these new forms is not without much frustration on the child's part. Throughout the period, the child reverts back to early forms which have proven themselves to be communicative. This point is well illustrated by the child's requesting "Jim" to close the door. He may use the word

"Jim" (the agent) and point toward the door (the object). He may employ a gesture (action), look at Jim (the agent) and say "door" (the object). It is also possible that he will say "close" (the action), look at Jim (the agent), and point toward the door (the object). If one of these forms fails, he may even use expressive language and motion toward the door.

Whether this ability to communicate relationships is due to the abstracting of rules by the LAD or to a pattern of association and reinforcement has not been solved here. The present study does suggest, however, that the child has knowledge of things and relationships which he communicates before using linguistic strings. Thus, just as the form-function principle holds for those later periods of acquisition, so the emergence of the holophrase (form) communicates the child's knowledge (function) of the possible relationships between the things and actions of his environment. As the child's conception of the world develops and words are heard in different contexts, new relational bounds are established in the word's use. The environment would seem to serve as a potential grammar which the child cognitively orders and linguistically realizes as a consequence of continued interaction with the environment.

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APPENDIX A

DATA ANALYSIS FORM

Subject____
Session____

Sentence

Modality	Proposition
____Question	____Predicative
____Declaration	____Name
____Rising	____Possessive
____Falling	____Ex. Possess.
____Level	

1 2

Relationships

Word	Visual Attention	Hand Orientation
____Free	____Act.	____Act.
____Elicited	____Agt.	____Agt.
____Expressive	____Obj.	____Obj.
Referential	____Dat.	____Dat.
____Agt. ____Obj.	____Loc.	____Loc.
____Dat. ____Loc.		
____Inst. ____Mod.		
____Conative		

3 Finger Orientation	4 Body Orientation
____Act.	____Act.
____Agt.	____Agt.
____Obj.	____Obj.
____Dat.	____Dat.
____Loc.	____Loc.

Approximate sentence: _____

_____

Comments: _____

_____

APPENDIX B

THE SUBJECTS' LEXICON

Kenny's Lexicon:
The Function of the Single Word

Naming		Predication	
Label	Location	Objective	Conative$_2$
what's that	what's that (right there)	cheese	off
dog	ball	orange juice	out
toast	orange juice	apple	do
juice	cheese	juice	pull
cheese	cracker	hot dog	stuck
orange juice	Ext. Poss.	duck	Conative$_3$
piece	Daddy	key	oh oh
apple	Mommy	cracker	see
duck	Pers. Poss.	Dative	broke
kitty	me	Daddy	off
Barbara		Agentive	Multiple Word Forms
clock		Daddy	ball up ball
pepper (cat)		Conative$_1$	three Daddy
beak		walk	
ball		down	
salt		one-two-three	
Daddy		up	

Sara's Lexicon:
The Function of the Single Word

Naming		Predication	
Label	Label (cont.)	Objective	Conative$_2$ (cont.)
pretty	the pretty	cup	dry
pamper	fish	cracker	goodnight
button	key	button	peekaboo
kitty	cheeps (birds)	cookie	Conative$_3$
baby	car	biddy	sitting up
turtle	Location	bunny	sleeping
coo-coo (clock)	brush	book	Multiple Word Forms
shoe	bye bye	story	Mommy biddy
cookie	cookie	brush	Mommy cookie
biddy	Paula	giraffe	no up
eye	Ext. Poss.	Locative	me too
nose	Paula	head	my toy
toe	Mommy	Agentive	toy please
cup	Pers. Poss.	Mommy	you fix it
hot	mine	Conative$_1$	I biddy
apple	my	up	I have please
ball		have	I do
book		fix it	I want toy
train		snap	I got it
toy		go	I want biddy
coo-coo (peekaboo toy)		Conative$_2$	I have it
the flower		button	head Mommy head
		wet	

Sara's Lexicon (continued)

Naming	Predication
	Multiple Word Forms (cont.)
	cracker Mommy cracker please
	my biddy
	mine 'raffe